UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,856	04/30/2001	Ajit B. Dandekar	2001B036	3184

23455 7590 06/17/2004

EXXONMOBIL CHEMICAL COMPANY
P O BOX 2149
BAYTOWN, TX 77522-2149

EXAMINER	
DANG, THUAN D	

ART UNIT	PAPER NUMBER
1764	

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/845,856
Filing Date: April 30, 2001
Appellant(s): DANDEKAR ET AL.

Linda A. Kubena
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 5/10/2004.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is substantially correct. The changes are as follows:

The rejection under 35 U.S.C. 102(b) is not applied to claim 6.

(7) Grouping of Claims

Appellant's brief includes a statement that claims do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,557,024	CHENG et al.	9-1996
5,536,894	DEGNAN et al.	7-1996

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 11, 12, 15, 16, and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Degnan et al (5,536,894).

Degnan discloses a process of alkylation of an aromatic such as benzene with ethylene or propylene in the presence of a catalyst containing MCM-56 and phosphorus (the abstract; col. 10, lines 28-67; col. 14, lines 7-11).

In example 15, Degnan discloses a catalyst containing 2.2 wt% of phosphorus.

The temperature of the process can be found on column 10.

Claims 13, 14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Degnan et al (5,536,894).

Degnan discloses a process as discussed above.

Degnan is silent as to the content of phosphorus in the catalyst as called for in claims 13 and 14 and does not disclose using MCM-22. However, the content of phosphorus is only the matter of selection and Degnan discloses that MCM-22 has similar characteristics with MCM-56 (see the whole patent to Degnan).

It would have been obvious to one having ordinary skill in the art at the time in the art at the time the invention was made to have modified the Degnan process by selecting an appropriate amount of phosphorus since it is expected that the Degnan catalyst containing any amount of phosphorus would yield similar results.

It would have been obvious to one having ordinary skill in the art at the time in the art at the time the invention was made to have modified the Degnan process by using MCM-22 in the place of MCM-56 in the catalyst of Degnan to arrive at the applicants' claimed catalyst since it is expected that using similar zeolites for preparation of the Degnan catalyst would yield catalysts having similar activities.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Degnan et al (5,536,894) in view of Cheng et al (5,557,024).

Degnan discloses a process as discussed above.

Degnan appears to be silent as to the phase of the alkylation (see the whole patent to Degnan). However, Cheng discloses that an alkylation in the presence of a MCM-56 catalyst can be operated in gas or liquid phase (the abstract; col. 12, lines 29-34).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Degnan by operating a liquid-phase alkylation process to arrive at the applicants' claimed process since it is expected that alkylation processes operated in the liquid or gas phase yield similar results.

(11) Response to Argument

Appellants admit on page 4, second paragraph of the Brief that in the abstract, Degnan discloses using a MCM-56 for alkylation process of aromatic.

Appellants admit on page 4, the last paragraph that Degnan mentions phosphorus several times, namely column 4, lines 19-31 (prior art disclosed by Degnan), column 14, lines 7-11; example 15, column 24, lines 64-66, and claims 26 and 32.

Appellants argue in the last paragraph of page 4 of the Brief that all mentions of phosphorus by Degnan is made in the context of catalytic cracking catalysts, a known use of phosphorus, no mention of phosphorus is made in the context of aromatics of aromatics alkylation. This argument is not convincing since among of teachings disclosed by Degnan cited to support appellants' position, only the paragraph from line 7-11 of column 14 (emphasis added by the examiner) discloses generally why phosphorus is added to the MCM-56 catalyst. In this paragraph, Degnan discloses that phosphorus yields the benefits including attrition resistance, stability, metals passivation, and coke make reduction. The entire paragraph does **not** mention benefits when used for only the cracking reaction. In other words, one having ordinary skill in the art would also recognize that all of 4 benefits disclosed in the paragraph are all **physical** benefits which affect to the physical properties of the catalyst when used for all of the reactions, namely not only cracking as argued by appellants. In other words, one having ordinary skill in the art must recognize that problems including attrition, coke deposition, stability and metal passivation are general problems when any solid catalyst used in any reactions, even reactions disclosed by Degnan.

Applicants argue that phosphorus is not mentioned in the abstract, and column 10, lines 26-67 is not persuasive since on column 10, lines 26-27, Degnan discloses only conditions such

as temperature, pressure used for alkylation. Similarly, the paragraph on lines 12-27 of column 10 discloses conditions of the cracking, but not phosphorus. This does not mean that the Degnan catalyst does not have phosphorus.

Appellants argue that the teaching on column 14, lies 7-11 is clearly referred back to the paragraph starting in column 13, line 39 is not persuasive as responded by the examiner above. Actually, this paragraph does not mention anything about the paragraph, column 13, line 39. Also, this paragraph does not disclose that the teaching of itself is applied to cracking reaction only.

Appellants argue that the catalyst of example 15 of Degnan is prepared to use for the cracking is not persuasive since example 15 discloses how a catalyst MCM-56 containing phosphorus is prepared, not how to use it.

The argument that the present invention is based on the discovery that when phosphorus is added to MCM-56, its selectivity (chemical property) increases and hydrothermal stability (physical property) during regeneration increase (page 7 of brief) is not persuasive since the catalyst of Degnan includes phosphorus and MCM-56. Further, as responded by the examiner above, the stability of the catalyst (physical properties) increased by including phosphorus is also recognized by Degnan. Again, one having ordinary skill in the art would recognize that if the teaching on column 14, lines 7-11 is applied only to cracking chemical reaction, the chemical benefit of phosphorus to the cracking reaction should be mentioned by Degnan. Therefore, it is clear that all of four benefits made by phosphorus mentioned in the paragraph are physical properties not chemical properties. These are problems when solid catalysts are used in all of

chemical reactions, namely hydrocarbon chemical conversion reactions, not only cracking reaction as argued by appellants.

The argument that instant claims 13 and 14 recite a smaller amount of phosphorous than the same of Degnan is admitted by the examiner as discussed in the previous rejection. However, appellants do not show any criticality of using this amount of phosphorus when compared with the catalyst of Degnan having 2.2 wt%.

Regarding claims 6 and 17, appellants do not argue why the rejection made by examiner is wrong.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Thuan D. Dang
Primary Examiner
Art Unit 1764

09845856.20040612
June 12, 2004

Conferees
SPE Glenn Caldarola
SPE Shire Beck

ExxonMobil Chemical Company
P.O. Box 2149
Baytown, TX 77522